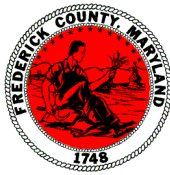




Rain Garden Workshop

Welcome!





Today's Agenda

9:30-11:00

Welcome from Catoctin Mountain Park

Becky Loncosky, Biologist

The Green Homes Challenge and Rain Garden Basics

Nicole Robinson, CCCV, Frederick County OSER

Rain Garden Location, Soils, and Sizing

Terry Welsh, Soil Conservation Technician, NRCS

Rain Garden Construction, Design, and Maintenance

Ruth H. Axelrod, MD Master Gardener, Chair of the FC Bay-Wise Committee

11:20-12:30

Proper Planting Techniques

Frederick County Master Gardeners

Rain Garden Installation!

Green Your Lifestyle, Protect Our Resources!





Welcome to Catoctin Mountain Park





The Green Homes Challenge!

Framework: 3 Challenges; 3 Certifications



Challenge 1:
Be a Power Saver
Helps residents reduce energy consumption and utility bills



Challenge 2:
Be a Green Leader
Helps residents adopt environmentally- friendly practices



Challenge 3:
Be a Renewable Star
Helps residents use renewable energy

Under Development

Green Your Lifestyle, Protect Our Resources!



What is our goal for the Challenge?

To Help Residents

- *Learn* about how they use energy and natural resources
- *Realize* the impact of their choices
- *Change* their behaviors to conserve resources

**Engage 2000
Households
by 2014**





The Green Leader Challenge

A Few Easy Steps

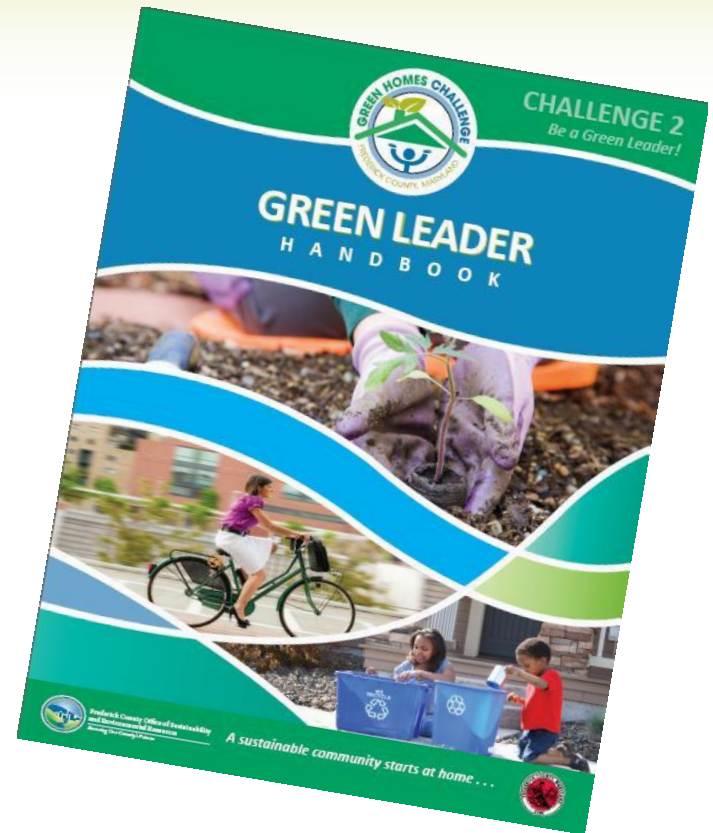
Step 1: Register with the Challenge
Take the Pre-Survey

Step 2: Implement Green Actions

**Step 3: Submit your Green Leader
Certification Form**







Your Key Resources

- The Green Leader Handbook
- Navigators, Green Ambassadors, and OSER staff















The Green Leader Handbook

	<div data-bbox="413 471 687 531">  </div> <p>30. Carpool at least once a week.</p> <p>If you carpool to work every day with a co-worker, you could cut your gas consumption and vehicle emissions in half! Talk to your neighbors about sharing rides to common or nearby destinations. Ask the parents of your children's friends and teammates if you can share driving duty for school and extracurricular activities. To learn about the Commuter Choice program, which can help you start your own carpool, search for "Commuter Choice Maryland" with your web browser.</p>	<div data-bbox="1634 479 1750 594">  </div>
	<div data-bbox="413 951 687 1011">  </div> <p>31. Use public transportation at least once a week.</p> <p>Instead of driving a car to work and school every day, use buses, metros, trains, and other forms of public transportation as much as possible. For more information on public transportation in Frederick County, visit: tinyurl.com/6lj2bsd. To learn about Commuter Choice, a program that provides incentives for Marylanders using public transportation and carpooling to get to work, search for "Commuter Choice Maryland" with your web browser.</p>	<div data-bbox="1634 962 1750 1076">  </div>









The Green Leader Handbook

	<div data-bbox="372 504 761 568">      </div> <p>65. Plant drought-resistant plants.</p> <p>Planting drought-resistant plants in your lawn and landscaping reduces the amount of watering required to keep the plants healthy. The EPA estimates that a household can save 20-50% of their outdoor watering needs by converting to a water-efficient landscape through the use of drought-resistant plants and careful design⁷³.</p>	
	<div data-bbox="382 946 450 1011">  </div> <p>66. Refrain from watering your lawn.</p> <p>30% of the water consumed on the East Coast goes toward watering lawns⁷⁴. The easiest way to cut your household's water use is to stop watering your lawn. Watering your lawn also makes your grass grow faster, and the higher your grass grows, the more often you need to mow your lawn. See action 77 to learn about the environmental impacts of lawn mowing.</p>	



The Green Leader Handbook

	<div data-bbox="446 496 730 554">  </div> <p>81. Redirect your rooftop run-off.</p> <p>When stormwater flows directly from your roof to impervious surfaces such as your driveway, sidewalk, or street, it enters stormwater drains and eventually surface waters such as streams and rivers. During large storm events, the influx of polluted water from impervious surfaces to natural waterways can harm aquatic ecosystems. “Rooftop Disconnection” simply means redirecting the water that flows from your roof’s gutters to your lawn or other pervious surface. This will allow the stormwater to soak into the ground rather than being carried directly to surface waters⁹⁴.</p>	<div data-bbox="1580 506 1688 614">  </div>
	<div data-bbox="446 996 815 1053">  </div> <p>82. Install a rain garden on your property.</p> <p>Rain gardens are plots of land containing amended soil and native plants that collect water flowing from impervious surfaces and allow it to slowly percolate into the ground. Rain gardens help to filter out pollutants, regenerate ground water, and lessen the load of pollutant-filled water on streams, rivers, and the Chesapeake Bay⁹⁵. To learn more, search for “Rain Gardens Across MD” with your web browser.</p>	<div data-bbox="1580 1006 1688 1113">  </div>



Green Leader Handbook *Online*

• GOVERNMENT • ONLINE SERVICES • RESIDENTS • BUSINESS • VISITORS • HOW DO I?



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Indoors & Cleaning

Indoors & Cleaning



42. Clean with **reusable cloth** instead of paper towels.

The pulp and paper industry, required to make disposable products such as paper towels, is the third largest producer of global warming pollution in the world ([source](#)). In comparison to paper towels, cloth is reusable, washable, and often biodegradable when it comes time to replace it. You can even use your old clothes that are too worn to donate as cloth for cleaning purposes. Mirrors and windows will be streak and lint-free when using lint-free cloth and a non-toxic, biodegradable cleaner. A cheap non-toxic formula for streak-free glass surfaces: 1 part water, 1 part distilled white vinegar, 2-5 drops dish soap. Put contents in a spray bottle and wipe.





What's in it for you?

Improve home and environment:

- Save money
- Create a healthier home
- Invest in home's value
- Enjoy environmental benefits

Rewards:

- Annual drawings for all certified homes

Recognition:

- Events with public officials
- Decals and yard signs
- Media and web profiles





To Get More Involved

Host a Powerware Party

- Gather 10-20 participants
- Leave the presentation to an OSER representative
- Receive a No-Cost Comprehensive Home Energy Audit

Be a Green Ambassador

- Promote the GHC, provide resources, organize workshops, and host Powerware Parties
- Receive a No-Cost Comprehensive Home Energy Audit
- Receive up to \$500 for a mini-grant project



**Register
Today!**





Watershed Activity



Green Your Lifestyle, Protect Our Resources!





What is a Watershed?

An area of land that drains to a specific body of water



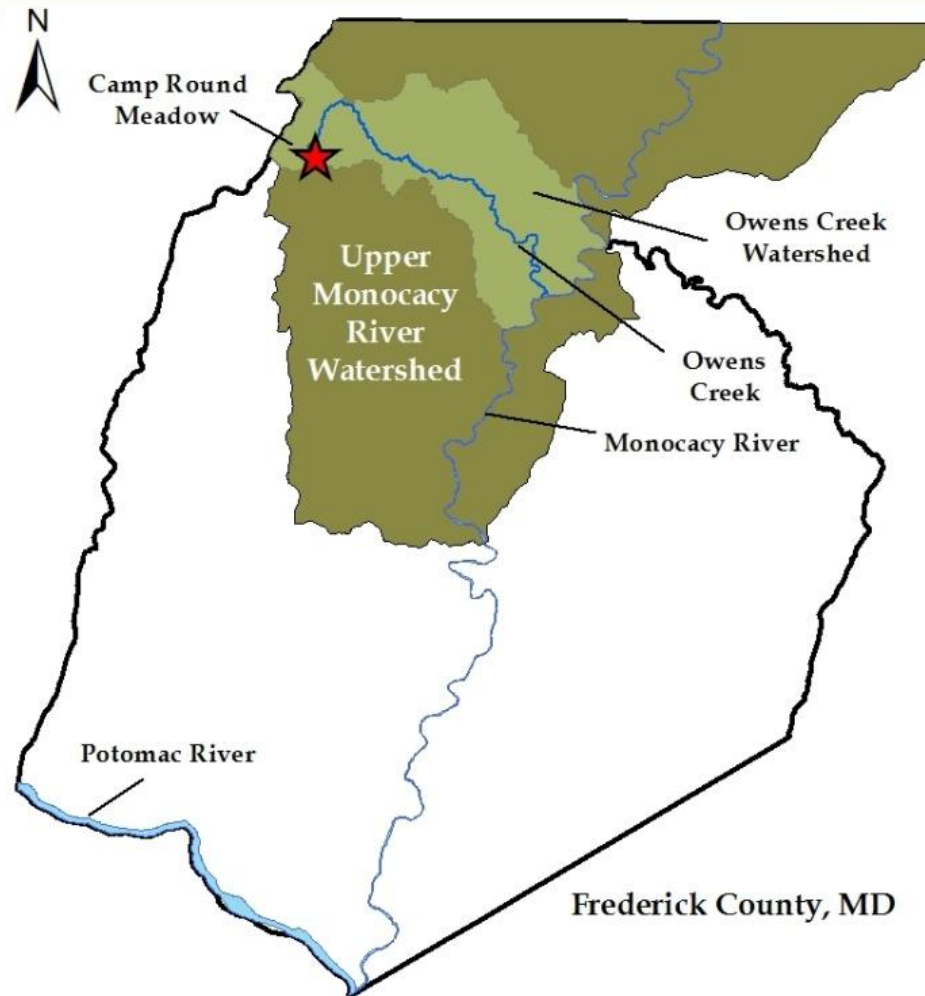


What is a Watershed?





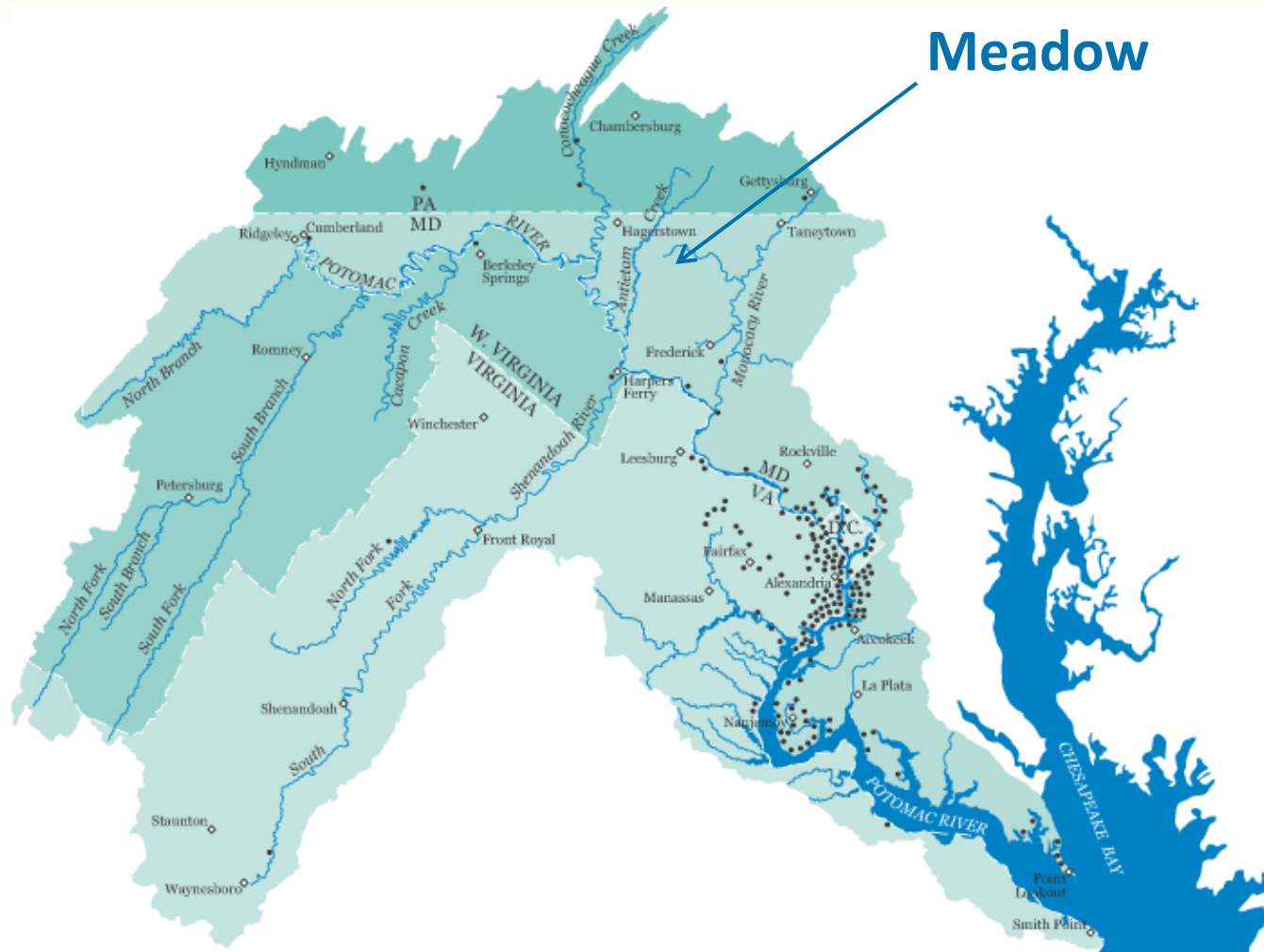
What is a Watershed?





What is a Watershed?

Round
Meadow





What is a Watershed?

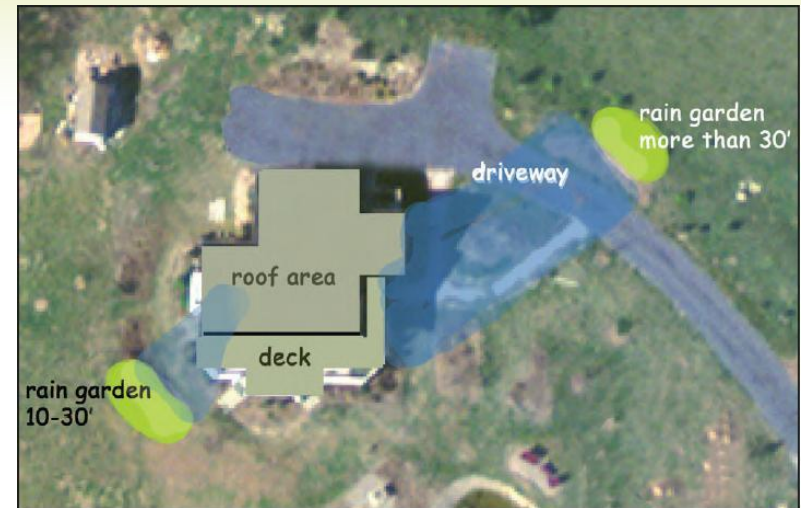




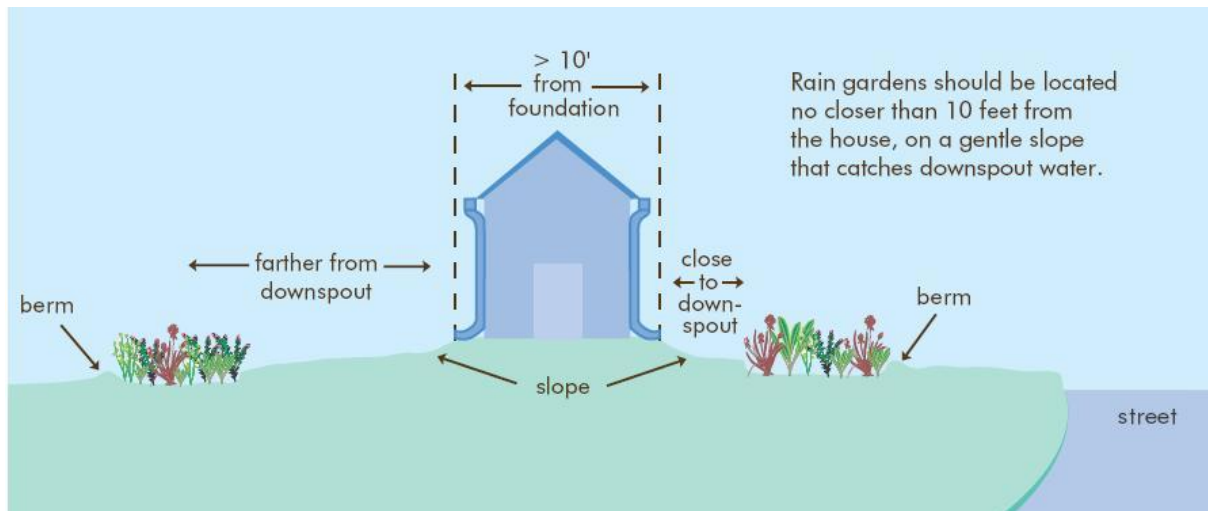
Location, Soils, and Sizing



Iowa Rain Garden Manual



Rain Gardens Across MD

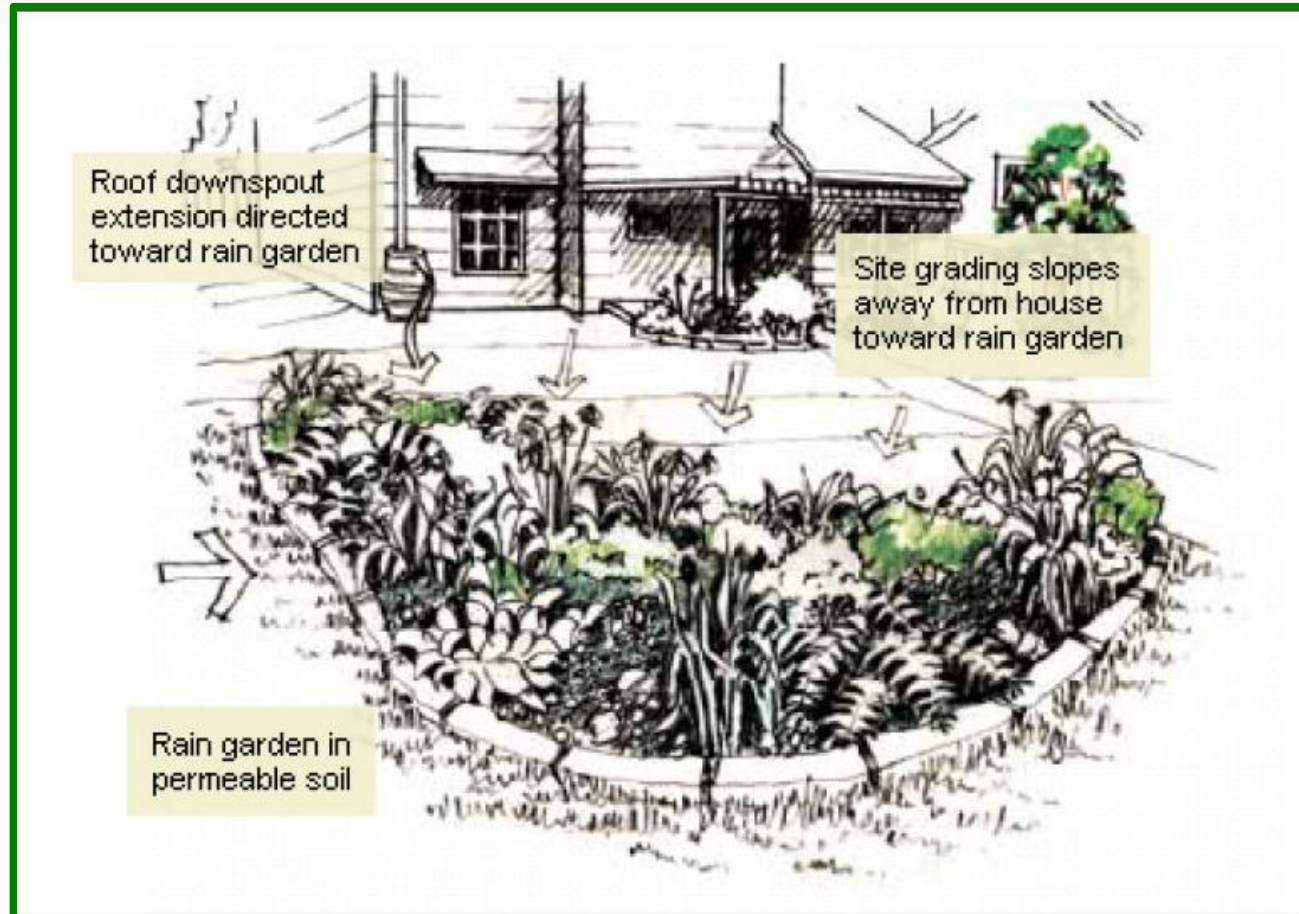


Ecoscaping Back to the Future





Construction, Design, and Maintenance



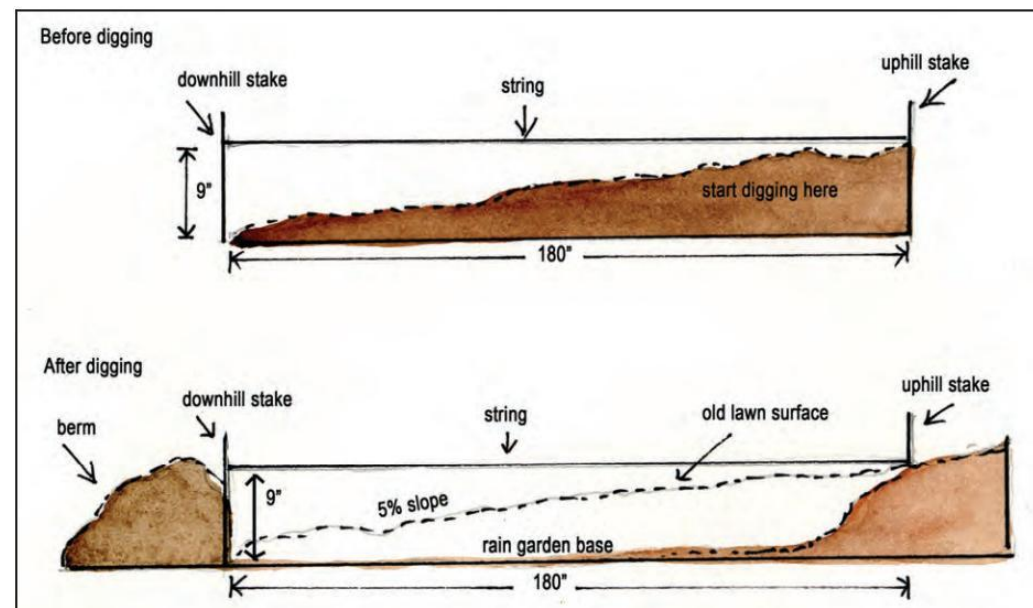
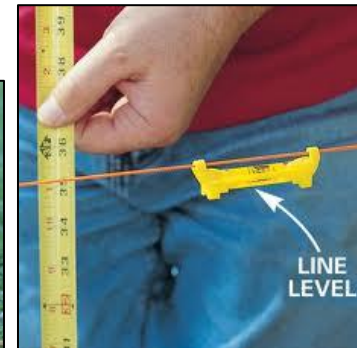
The Garden in Your Mind's Eye



Construction

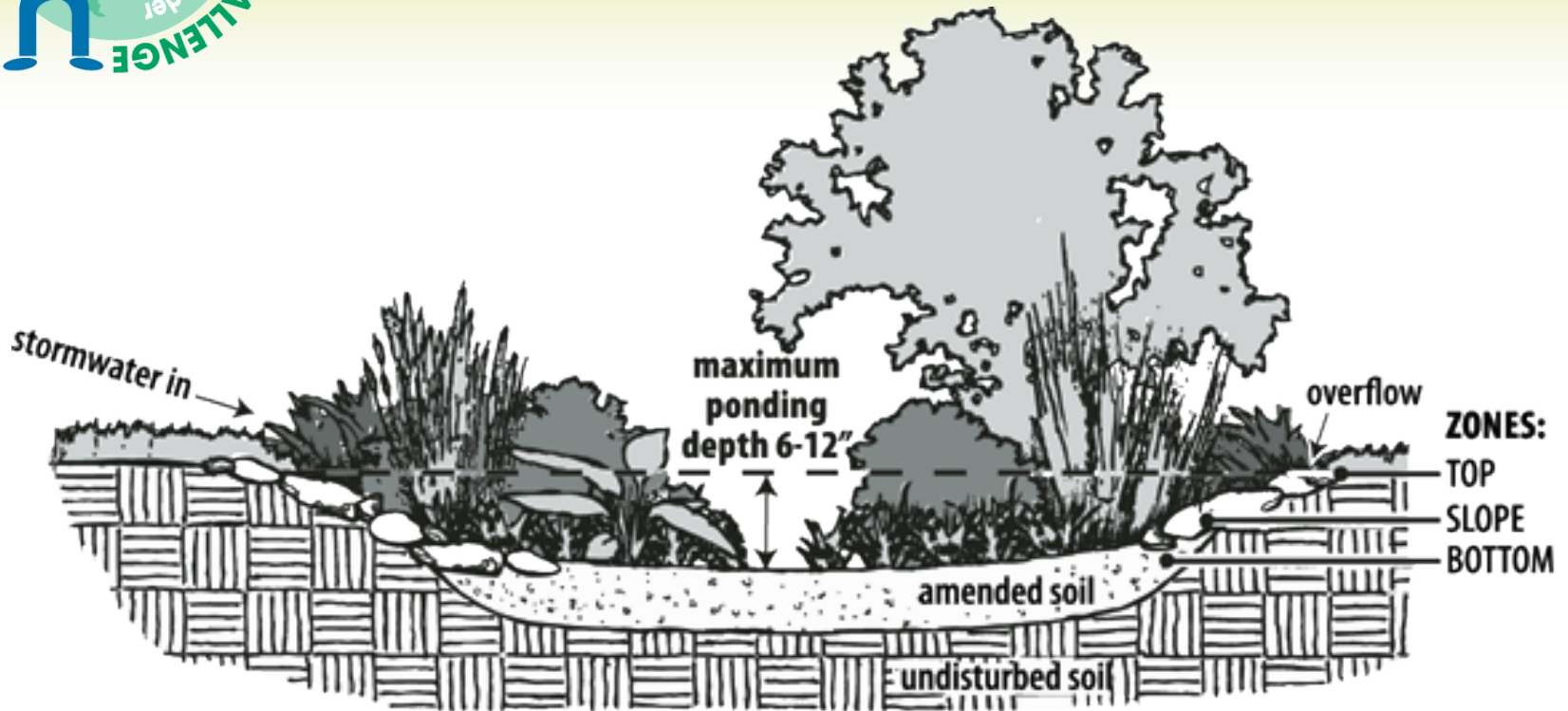
- **Stake out size and shape of garden.**

- ▶ Install string from uphill to downhill borders. Level it.
- ▶ Before you dig, call 811.
- ▶ Remove soil to calculated depth.
- ▶ Use soil to build berme (long mound) on downhill side, up to ponding depth.





Construction



- Create overflow outlet for large storms.
- Grade garden bed; slope up to the edges.





Construction

- **Hints**
 - ***Berme:*** Rock base helps control erosion.
 - ***Poor drainage:*** Remove more soil and install gravel base.
 - ***Poor soil quality:*** Remove more soil and mix or replace with fertile garden soil.





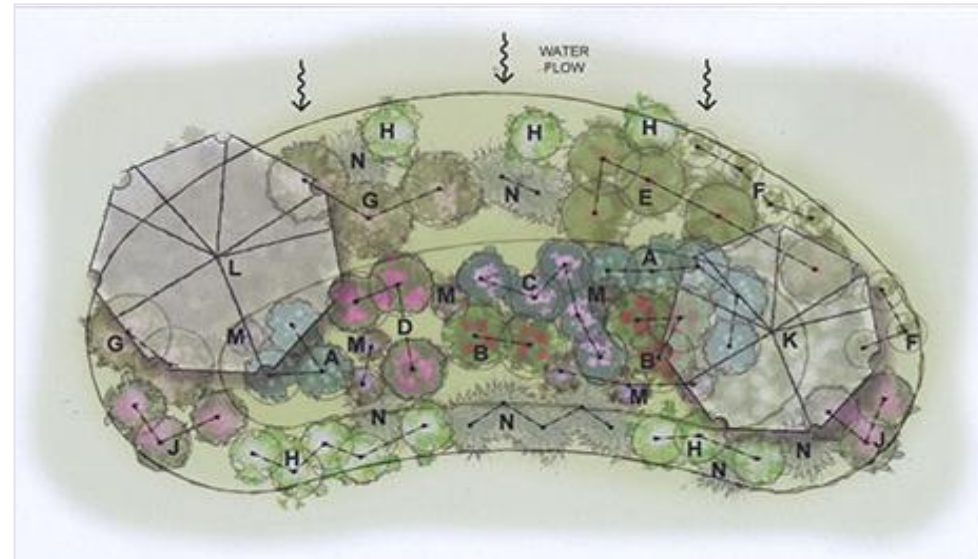
Design

➤ Select plants

- Consider mature size, color, texture, habitat characteristics, etc.
- Native woody and herbaceous plants and grasses.

➤ Design the planting

- **Center:** Tolerate wet roots.
- **Edges:** Tolerate some dryness.
- **Berne:** Drought-tolerant plants or turf.





Planting

- Space plants according to directions or mature size.
- Remember: *First year, sleep; second year, creep; third year, leap.*
- Plant, compost and mulch.
- Do not add other fertilizer.
- If desired, add rocks or other special features.
- Water thoroughly.





Maintenance: Plants

- Until established, weed regularly and water when dry.
 - Herbaceous plants: one year
 - Shrubs and trees: two-three years
- Mulch annually.
- Do not add more compost or other fertilizers.
- Prune shrubs and trees, to shape as desired.





Maintenance: Garden

- Check water flow during heavy rainfalls.
- Check for standing water 24-48 hours later.
- Repair overflow channel and berme, when needed.





We want you to succeed!

Speakers:

Nicole Robinson, CCC Volunteer

NRobinson@FrederickCountyMD.gov; 301.600.1306

Terry Welsh, Soil Conservation Technician

Terry.Welsh@md.usda.gov; 301.695.2803 ext. 3

Ruth H. Axelrod, Maryland Master Gardener, Chair FC Bay-Wise Committee

raxelrod@gwmail.gwu.edu; 240.350.8710

Online resources:

FrederickCountyMD.gov/GreenHomes

